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09/653,658	08/31/2000	Jerome R. Mahoney	IVC-103A	5478

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EXAMINER	
CHOW, MING	

ART UNIT	PAPER NUMBER
2645	14

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/653,658	MAHONEY, JEROME R.	
	Examiner	Art Unit	
	Ming Chow	2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 31-33, 35, 39 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner (US: 5786764), and in view of Baker et al (US: 4783803).

For claim 31, regarding section (a), Engellenner teaches on Fig. 13 a support structure.

Regarding section (b), Engellenner teaches on item 146 Fig. 13 and column 13 line 29 column 14 line 13 FFT circuit (claimed "DSP"). Engellenner teaches on column 13 line 30-35 the EFT circuitry converts a time domain signal which gives the amplitude of a given signal over a succession of times into a frequency domain signal. The "signal over a succession of times" of Engellenner is the claimed "continuous". The "converts" of Engellenner is the claimed "utilizes". Engellenner teaches on column 13 line 20 the microphone output (speech) is analog (claimed "raw acoustic signals"). Engellenner teaches on column 13 line 35-39 EFT circuit converts the output of the A/D converter into a sequence of frames. The "frames" of Engellenner is the claimed "token". Engellenner teaches on column 14 line 57-61 using the matching method to match frames in a model of each word. Engellenner also teaches on column 12 line 3 to column 15 line 40 acoustic signals generated by an utterance are converted into digital representation for comparison with word models based on the likelihood.

Regarding section (c), Engellenner teaches on column 12 line 48-51 software-driven (reads on claimed "programmable") speech recognition. Engellenner also teaches on column 11 line 58-60 the system is a microprocessor-based controller. Engellenner also teaches on items 144, 148 and 164 microprocessors interfacing with the DSP. The combination of items 144, 148 and 164 of Fig. 13 is the claimed "programmable microprocessor".

Regarding section (d), Engellenner teaches on column 12 line 3 to column 15 line 40 programming and circuitries for voice activation and recognition and response to provide item location. Engellenner teaches on column 12 line 62-65 the speech processing means (reads on the claimed "microprocessor") detecting the utterance of a spoken word and for converting that utterance into digital signals. Therefore, the 'converting" is voice-activated when the utterance of a spoken word is detected. The item 144 and 148 of Fig. 13 of Engellenner is a part of the voice recognition as taught by Engellenner. Therefore, the microprocessors (items 144 and 148 of Fig. 13) provide voice recognition. Engellenner teaches on column 15 line 32-40 the computer (reads on the claimed "microprocessor" – CPU) provides item location via either a video display or a speaker. Regarding "item and location data are defined by manager input to said system", Engellenner teaches on column 2 line 50 to column 3 line 8 beacons and a master controller (claimed "manager input") poll the item and location data for storing in the location memory (item 176, Fig 13, column 15 line 38-40).

Regarding section (e), Engellenner teaches on item 141 Fig. 13 microphone (claimed "voice input means").

Regarding section (f), Engellenner teaches on item 156 Fig. 13, column 11 line 48-49, column 11 line 58-60, and column 13 line 60 to column 14 line 6 the claimed "memory".

Engellenner teaches on item 150 Fig. 13 a computer. The memory (item 150 Fig. 13) and CPU (item 164 Fig. 13) are claimed storage means for claimed "execute function" of the computer system. Engellenner teaches on column 14 line 4-6 the successive frames of inquires and other instructions (column 12 line 4) are stored in memory. The "inquires" of Engellenner is the claimed "operational inputs". The "other instructions" of Engellenner is the claimed "control inputs".

Engellenner failed to teach "memory storage means for voice recognition vocabulary for storage of command match". However, Baker et al teach on Fig. 11 and column 21 line 54 to column 22 line 50 memory for storing voice recognition vocabulary of command match.

Regarding section (g), Engellenner teaches on column 15 line 34-36 an user interface, either a video display, or a synthetic speech generator, or a combination of both ("and" on column 15 line 35), for confirming (reads on claimed "feedback.....in response to") the search request(claimed "item location query").

It would have been obvious to one skilled at the time the invention was made to modify Engellenner to have the "memory storage means for voice recognition vocabulary for storage of command match" as taught by Baker et al such that the modified system of Engellenner would be able to support the memory for storing voice recognition vocabularies to be used by the voice recognition to the system users.

Regarding claim 32, Engellenner teaches on column 13 line 4-7 acknowledging search requests by displaying words 9claimed "text") recognized.

Regarding claim 33, Engellenner teaches on column 15 line 34 video display (reads on claimed "sufficient hardware and software") for confirming search requests (claimed "recognizable voice input").

Regarding claim 35, Engellenner teaches on item 141 Fig. 13 a microphone for voice input.

Regarding claim 39, Engellenner teaches on items 143 Fig. 13 and columnn12 line 60 to column 14 line 26 speech processing means (claimed "speech signal recognizer"; see also line 14 page 37 to line 6 page 38 of the specifications for functions of the claimed "speech signal recognizer"). Engellenner also teaches on item 178 Fig. 13 and column 15 line 13-23 "likelihood processor" (claimed "speech signal interpreter"; see also line 19 page 39 to line 8 page 40 for functions of the claimed "speech signal interpreter").

Regarding claim 46, Engellenner teaches on item 141 Fig. 13 a build-in (a wire-connected) microphone.

2. Claims 34 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner, and in view of Perrone et al (US-PAT-NO: 6,092,045).

Regarding claim 34, Engellenner failed to teach "memory storage.....system programming". However, Perrone teaches on column 6 line 42 "a non-volatile memory such as a ROM is used to store bootstrap instruction". It is old and well known to one skilled in the art that

the bootstrap instructions include diagnostics and system programming. It would have been obvious to one skilled at the time the invention was made to modify Engellenner to have the "memory storage.....system programming" as taught by Perrone et al such that the modified system of Engellenner would be able to support the ROM, diagnostics, and system programming to the system users.

Regarding claim 40, Engellenner and Baker et al failed to teach "embedded.....default functions". However, Perrone teaches on Abstract "the control software receives a spoken utterance to recognize a resources identifier in the utterance". The software must be embedded (on system memory). The "receives a spoken utterance" of Perrone reads on the claimed "voice driven interface". The "to recognize a resources identifier" of Perrone reads on the claimed "operational instructions". Perrone also teaches on column 19 line 35 "showing the locations of that class of rooms". The "showing the locations of that class of rooms" of Perrone reads on the claimed "locator function". Perrone also teaches on Fig. 3B various claimed "options". Perrone also teaches on item 400 "establish data communication channel" and item 402 "establish voice communication channel" of Fig. 4 are the claimed "default functions". It would have been obvious to one skilled at the time the invention was made to modify Engellenner and Baker et al to have the "embedded.....default functions" as taught by Perrone et al such that the modified system of Engellenner and Baker et al would be able to support the interface to the system users.

3. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner and Baker et al as applied to claim 31 above, and in view of Semple et al (US: 6408307).

Engellenner teaches on column 11 line 41-43 the user inputs the identifier for the item to be located via keyboard or touch sensitive mechanisms (both read on claimed "manual control panel"). Engellenner teaches on column 11 line 39 to column 12 line 2 management of item and location data.

Engellenner failed to teach "input.....location data". However, Semple et al teach on column 4 line 53-56 a system for location items of interest. Semple et al teach on column 5 line 40-43 and column 4 line 54-56 item location data are input to a database via a keyboard (claimed "manual control panel").

It would have been obvious to one skilled at the time the invention was made to modify Engellenner and Baker et al to have the "input.....location data" as taught by Semple et al such that the modified system of Engellenner would be able to support the input of location data to the system users.

4. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner, baker et al and Semple et al as applied to claim 36 above, and in view of Wortham (US: 5884221).

Regarding a microphone, a screen for input and feedback display, the rejections as stated in claim 31 above apply.

Engellenner, Baker et al and Semple et al failed to teach "a keyboard and menu for operation and programming". However, Wortham teaches on Abstract - an apparatus for locating vehicles (reads on claimed "item locator") and on column 5 line 3-19 keyboard and menu for programming.

It would have been obvious to one skilled at the time the invention was made to modify Engellenner, Baker et al and Semple et al to have the "a microphone, a screen for input and feedback display" as taught by Wortham such that the modified system of Engellenner, Baker et al and Semple et al would be able to support the keypad and menu to the system users.

5. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner and Baker et al as applied to claim 31 above, and in view of Martin (US: 5991712). Engellenner teaches on step 114 Fig. 12 and column 15 line 35 synthetic speech generator and speaker (reads on claimed "audio feedback hardware and software adapter") for audio feedback. Engellenner failed to teach "digital-to-analog conversion". However, Martin teaches a speech recognition system with an adapter for digital-to-analog conversion and an audio speaker. It would have been obvious to one skilled at the time the invention was made to modify Engellenner and Baker et al to have the "digital-to-analog conversion" as taught by Martin such that the modified system of Engellenner and Baker et al would be able to support the digital-to-analog conversion to the system users.

6. Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner and Baker et al as applied to claim 31 above, and in view of Cohen et al (US-PAT-NO: 6,507,352). Engellenner and Baker et al failed to teach response to provide item location to a user includes aisle and shelf location. However, Cohen et al teach on column 32 line 37 "product location information (e.g. aisle number and shelf location) is displayed on the display monitor. It would have been obvious to one skilled at the time the invention was made to modify

Engellenner and Baker et al to have the response to provide item location to a user includes aisle location as taught by Cohen et al such that the modified system of Engellenner and baker et al would be able to support the aisle and shelf location to the system users.

7. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner and Baker et al as applied to claim 31 above, and in view of Reed (US-PAT-NO: 6,394,278). Engellenner and baker et al failed to teach response to provide item location to a user includes bin number. However, Reed teaches on column 7 line 27 "display screen for conveying destination information in the form of a bin number". It would have been obvious to one skilled at the time the invention was made to modify Engellenner and Baker et al to have the response to provide item location to a user includes bin number as taught by Reed such that the modified system of Engellenner and Baker et al would be able to support the bin number to the system users.

8. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner and Baker et al as applied to claim 31 above, and in view of Radican (US-PAT-NO: 6,148,291). Engellenner and Baker et al failed to teach response to provide item location to a user includes row and slot location. However, Radican teaches on column 12 line 33-42 "Fig. 11A is one graphic form.....selected container is displayed .....row and slot designation". It would have been obvious to one skilled at the time the invention was made to modify Engellenner and baker et al to have the response to provide item location to a user includes row and slot location as

taught by Radican such that the modified system of Engellenner and Baker et al would be able to support the row and slot location to the system users.

9. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner and baker et al as applied to claim 31 above, and in view of Bandara et al (US: 5899973). Engellenner and Baker et al failed to teach "support structure is a portable support structure". However, Bandara et al teach on column 4 line speech recognition system on a portable computer. It would have been obvious to one skilled at the time the invention was made to modify Engellenner and Baker et al to have the "support structure is a portable support structure" as taught by Bandara such that the modified system of Engellenner and baker et al would be able to support the portable structure to the system users.

10. Claim 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engellenner and Baker et al as applied to claim 31 above, and in view of Gupta et al (US: 5390278). Engellenner and Baker et al failed to teach "speech recognition.....recognition engine". However, Gupta et al teach on Abstract – a speech recognition system uses the Hidden Markov Models. It would have been obvious to one skilled at the time the invention was made to modify Engellenner and Baker et al to have the "speech recognition.....recognition engine" as taught by Gupta et al such that the modified system of Engellenner and Baker et al would be able to support using the HMM by the voice recognition for better recognizing input acoustic signal for item location requests to the system users.

Response to Arguments

11. Applicant's arguments filed on 10/6/03 have been fully considered but they are not persuasive.

i) Applicant argues, on page 13-14, regarding "detector within the regions senses a response from the tag" as taught by the prior art (Engellenner) vs. retrieving location data from the location database as claimed by the instant application. The arguments have nothing to with the claimed limitations in claim 11. In other words, Applicant's arguments are not claimed in claim 11. All rejections as stated meet the claimed limitations as stated in sections (a) – (g) in claim 11. Also, Engellenner teaches on column 3 line 10-13 a user can request the location of an object the system can retrieve the stored census data for comparison with the data obtained by interrogation. Therefore, Engellenner does teach the argued limitation "retrieves the location associated with that item from the location database".

ii) Applicant argues, on page 14, regarding "hierarchical structure of item-location". The "hierarchical structure of item-location" has nothing to do with the claimed limitations and is not a claimed limitation in claim 11.

iii) Applicant argues, on page 14, regarding the combination of referenced primary and secondary prior arts. The combination of referenced primary and secondary prior arts fully meet the rejections for claimed limitations.

iv) Applicant argues, on page 15, regarding motivation and "there is no need for Engellenner to utilize the speech recognition system of Baker et al". The motivation has been clearly stated in the rejection for claim 11. Although Engellenner discloses a speech recognition system, however, as stated, Engellenner failed to teach "memory storage means for voice recognition vocabulary for storage of command match". Baker et al was recited to teach the limitation that Engellenner failed to teach. It is a perfect motivation in combining the two prior arts so that Engellenner's system supports a memory storage means for voice recognition vocabulary for storage of command match.

v) Applicant argues, on page 15-18, regarding claims 14 and 20. Perrone et al is recited for teaching the limitations as claimed in claims 14 and 20. The applications (ordering products) implemented by Perrone's system is a different issue. Also, the memory storage means and the control software as taught by Perrone et al are used for voice recognition. It is a perfect motivation to modify Engellenner in view of Perrone et al so that Engellenner's system can support the memory storage means and the control software as claimed.

vi) Applicant argues, on page 18-21, regarding claim 16. The database structure, as Applicant argued, has nothing to do with the claimed limitation in claim 16. Also, as Engellenner failed to teach the input and management mechanism as claimed. It is a perfect motivation to modify Engellenner in view of Semple et al so that Engellenner's system can also support the input and management mechanism as claimed.

vii) Applicant argues, on page 21-22, regarding claim 37. Wortham is recited to teach the limitation as claimed in claim 37. The argued "determining location from an item locator database" has been addressed above.

viii) Applicant argues, on pages 22-30, regarding claims 18, 21-25, 27-30. Applicant reasserts all arguments in section (b). Responses to arguments in section (b) have been addressed above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communication from the examiner should be directed to the examiner Ming Chow whose telephone number is (703) 305-4817. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang, can be reached on (703) 305-4895. Any inquiry of a general mature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is (703) 306-0377. Any inquiry of a general nature or relating to the status of this application or proceeding should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to TC2600's Customer Service FAX Number 703-872-9314.

Patent Examiner

Art Unit 2645

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